Introduction

The ancients knew that acupuncture changes the hormonal balance

In the ancient book Huang Ti Nei Ching Sue Wen [1] it is written: The Yellow Emperor asked: I understand that in old times the treatment of diseases consisted merely of transmittal of the Essence. What is 'Essence' or 'Essence of Life'? 'Essence of Life' are the hormones, which in quantity of milligrams per liter of blood rule and regulate all the processes in the body. If we should name the hormones according to the role they play in the body, we should name them Essence of Life because they are essential for our life and wellbeing (they rule and regulate all the processes in the body) and they play this essential role in amounts milligrams per liter of blood. The name 'hormone', which our civilization uses, came from the Greek word 'hormaos', which means 'exciting'. Historically, the first discovered life-important substance happened to be exciting in small quantity and was called 'hormone'. Later it was found that there are life-important substances, which (opposite to the exciting hormones) inhibit in small quantities. However, the name 'hormone' is now used for both categories of hormones regardless of the fact that the word 'hormone' means 'exciting' and hormones do both - excite or inhibit.

According to the ancient acupuncture book [1], there are five types of hormones and they originate from five sources. According to our science, our body has six endocrine glands. They are called glands with internal secretion because they secrete their hormones directly into the bloodstream: pituitary, pineal, thyroid (and parathyroid), adrenal glands, ovaries or testes, and part of the pancreas Maria Kuman, Modern Aspects of Ancient Acupuncture [2]. The glands do not secrete their hormones around the clock, but only at specific time of the day or night. This leads to cyclic or periodic changes in the hormonal concentration in the blood called hormonal rhythms.

Hormonal rhythms

Hormones cannot regulate the processes in the body unless they do both, excite or inhibit. The body usually secretes an inhibiting hormone to balance the effect of an exciting hormone and if the exciting hormone is released in 3 a.m., the inhibiting hormone is released at 3 p.m. The rhythm of hormonal secretion is called hormonal rhythm or rhythm of hormonal change. The time interval between two consequent secretions of the same hormone is called period of secretion. In the body, there are thousands of different hormonal rhythms with different periods. Each hormone regulates a different group of periodic processes taking place at different times of the day, month, or year. When classified according to their periods, the hormonal rhythms can be subdivided into several quasi-independent groups:

A. Circadian rhythms with periodicity of 24 hours ruled by light [2],
B. rhythms with 5-day periodicity,
C. monthly rhythms with periodicity of 28 days or one lunar month,
D. yearly rhythms, called also seasonal rhythms,
E. rhythms with periodicity of 10 to 11 years, 100 years, etc.

Keywords: Acupuncture; Hormones; Hormonal cycles; Timing of the acupuncture treatments
The daily rhythms with periodicity less than 24 hours.

Thus, all processes in the body are organized not only in space (i.e., into organs and tissue-specific formations such as skin, bones, etc.), but also in time. Hormones rule and regulate:

a. our emotions or moods,
b. our mental ability - learning, memorizing, problem solving, and creativity,
c. our behavior,
d. our mental health [3].

Many people think only about sexual hormones when they hear the word hormone, which is not right. Sexual hormones are only a very narrow category of all hormones. Even the ancients knew that the hormones rule our moods the five Spirits (moods) are related to the five Essences (Harmons). Huang Ti Nei Ching Sue Wen [1]. Since the translator of [1], Ilza Veith, thinks that the book [1] was written around 2500 BC, it seems that our civilization needed 4,500 years to rediscover that hormones rule our moods and behavior, our mental abilities, and our mental health [4].

Hormonal rhythms ruled by light

Our body is a complicated system of biorhythms with different periodicity. As said, the body biorhythms with periodicity of 24 hours are called circadian rhythms and are ruled by light. Such are: the cortisol rhythm, the rhythms of skin resistance, etc. The fact that babies are born with only one circadian rhythm - the rhythm of electrical skin resistance - indicates that electrical field plays essential role in the body regulating mechanisms. The circadian rhythm of electrical changes is ruled and regulated by light, as all circadian rhythms are. The pineal gland is involved, which is light-sensitive. Involved are also: the hypophysis (pituitary gland), hypothalamus, and the triple ganglia on the back side of the neck. Experiments show that light rules and regulates more than the circadian processes in our body. Even the cycle of ovulation, called menstruation, is sensitive to light and can be regulated by light [5].

In 1965, Dr. Dewan studied a 26-year-old woman whose menstrual cycle had varied between 23 and 48 days for the previous 16 years. During the 14th, 15th, 16th, and 17th nights of her cycle, counting the first day of menstruation as the first day of the cycle, she slept all night in the indirect light of a 100-watt bulb from a lamp placed on the floor at the foot of her bed. The light was indirect - it shined in her face after reflection from walls and ceiling. [5] At first, the volunteer was unaware that she was a subject of an experiment, meant to regulate her menstrual cycle, and during the regimen her first three menstrual cycles shortened to 29 days. After the second cycle, she became alarmed at the dramatic change in her cycles and then she was informed about the pilot study. The forth cycle was not so regular, perhaps because the light had been turned off a few hours before dawn [5]. The conclusion was that light influences the release of L- and FS-hormones from the ovaries. If so, light could make ovulation predictable and controllable. If light could change the cycle of ovulation, probably light could be even used for birth control Figure 1 & 2.

The acupuncture treatments must be synchronized with the daily, monthly, and seasonal hormonal rhythms

Synchronization with daily rhythms: In the ancient acupuncture book Huang Ti Nei Ching Sue Wen [1], it is written that the best time to stimulate is in the morning, and the best time to sedate is in the evening. Therefore, acupuncture treatments of depression, which require stimulation, and other stimulating treatments must be done in the morning, while treatment of insomnia or other disorders of the nervous system, which require sedation, must be done in the evening. This is because the cortisol’s daily rhythm of change depicted on Figure 3 shows that the amount of cortisol, which determines the body energy, increases in the morning. Wisely following the wisdom: Never swim against a river if you can swim along it, the acupuncturists must stimulate with needles in the morning when the amount of cortisol in the blood grows and the body energy naturally increase. The daily rhythm of cortisol change depicted on Figure 3 shows that the amount of cortisol and the body energy decreases in the evening. Wisely following the wisdom: Never swim against a river if you can swim along it, the acupuncturists must sedate with needles in the evening when the amount of cortisol and the body naturally decreases. Then, the cure with acupuncture will be like swimming along the river - easy and effective. This seems logical and agrees quite well with the contemporary research of Moore Ede et al. [6]. Their results can be summarized in the following way: The effect of stimulation is larger when done during the time of natural hormonal increase and the effect of sedation is larger when done during the time of natural hormonal decrease. The secretion of the hormone cortisol starts at 3 a.m. and reaches a substantial value before awakening (Figure 3). When the level of cortisol is high enough, we awake with the feeling that we have had a good sleep, our body has recharged, and we are ready to start the new day. The cortisol level continues
to grow at the same high rate until 10 a.m. Between 10 a.m. and 2 p.m. the growth slows down. Between 2 p.m. and 5 p.m. the amount of cortisol slowly decreases (Figure 3). Between 5 and 9 p.m. it decreases more rapidly. After 9 p.m. the cortisol level shoots down and this is the time when we start feeling sleepy and tired. After a while we are ready to go to bed.

**Figure 1**

Synchronization with monthly rhythms: When we speak of monthly hormonal rhythms, we actually mean rhythms of hormonal change with periodicity one lunar month of 28 days, because the moon influences the human body substantially. An Italian monk discovered more than 200 years ago that at constant food and water intake during full moon the body weight increases about half a kilogram (or roughly a pound). This means that each time we observe an ocean tide during full moon, the body experiences a tide of its own. Even the word ‘month’ comes from ‘moon’ (in other languages this is more visible). The ancient acupuncture book Huang Ti Nei Ching Sue Wen [1] provides the following information about the influence of the moon on the human body: When the moon begins to wax, then blood and breath come to life and the essences (the hormones) receive new incentive and guard the breath of life, which begins to be active. When the moon is full to the rim, there is abundance of blood and breath and the muscles and the flesh are firm and strong. When the moon is empty to the rim, the muscles and the flesh become reduced, the arteries and the veins become empty, and the hitherto guarded breath departs, leaving the body in a deserted condition [1].

China and other nations in the East have used and are presently using a moon calendar because of the substantial influence of the moon on the human body. The ancient Chinese books insisted acupuncturists should treat with needles according to the moon phases: At the time of the new moon, one should not drain and when the moon is full one should not supplement. When the moon is empty to the rim, there is abundance of blood and breath and the muscles and the flesh are firm and strong. When the moon is empty to the rim, the muscles and the flesh become reduced, the arteries and the veins become empty, and the hitherto guarded breath departs, leaving the body in a deserted condition [1].

Other studies found that when the moon is full, or waxes, the blood vessels are almost empty [4]. Then, we should follow the advice of the ancients:

- Never practice acupuncture if the moon is empty because the blood and energy are low.
- Never practice draining with acupuncture, if the moon is still new, because the blood and energy grow.
- Never practice stimulation with acupuncture if the moon is full because the blood will overflow.

This seems logical and agrees quite well with the contemporary research of Moore Ede et al. [5] published in: The New England Journal of Medicine. Their results can be generalized in the following way:

1. The effect of stimulation is larger if done during the time when the number of hormones in the blood naturally grows following its rhythmic change. And this is true for daily, monthly, and seasonal growth.
2. The effect of sedation is larger if done during the time when the number of hormones in the blood naturally decreases. And this is true for daily, monthly, and seasonal decrease. They also found that the impact of each stressor (in their case light) is stronger at the beginning of the active period when the cortisol level in the blood increases.

Synchronization with seasonal rhythms: Spring, Summer, Fall, Winter, each of the seasons has a special effect...When Spring has a stimulating effect, Summer has a distributing effect, Fall has a scattering effect, etc. (Huang Ti Nei Ching Sue Wen [1]). The best season to stimulate will be the spring, the best season to balance will be the summer, etc. This makes the seasons important for the acupuncture treatments.

**Acupuncture Treatments Must be Synchronized with the Rhythm of Breathing**

When acupuncture is done, it is extremely important to choose the right moment of the cycle of breathing to insert the needle and the right moment to take the needle out. When the energy (Chi) of
an acupuncture point is higher than normal, the extra energy needs to be drained out. The procedure is called ‘draining’. To achieve draining: One should insert the needle at the time of inhalation... When the needle is inserted, one should rest it there for a moment, and the breathing of the patient must be quiet...The needle should be taken out at the time of exhalation, but it shouldn’t be taken out suddenly; only when the breath is completely exhaled. [1]

When the energy (Chi) of an acupuncture point is lower than normal, extra energy needs to be added. The procedure is called ‘supplementing’. When all the breath is out at exhalation, one should insert the needle and wait for some time until the patient has to inhale, as though one waited for something precious, and were unaware of day and night. When the breath is entirely exhausted in exhalation, one should move the needle, but with great care and caution. If at the time of inhalation, the needle is withdrawn, the breath cannot leave the body, and everything is at its proper place.” (Huang Ti Nei Ching Sue Wen [1]) thus, ‘draining’ (energy out) is done by taking the needle out during exhalation, when the amount of oxygen and other body parameters naturally decrease. ‘Supplementing’ energy or stimulation is done by taking the needle out during inhalation, when the amount of oxygen and other body parameters naturally grow.

Professor Furukawa of Japan recorded [7] the magnetic field, the electric field, and the pH value of acupuncture points before, during, and after the breath was held in for fifteen seconds [7]. Based on these measurements, Dr. Furukawa concluded that the acupuncture points are sensitive to the phases of the cycle of breathing; which he found synchronized with changes in the blood circulation.

Professor Furukawa also found that the acupuncture points respond to minute changes in the environment around the point. Since the author of this article predicted [8] that the whole system of acupuncture meridians communicates quickly through waves, and this was experimentally confirmed a year later [9], this could explain the sensitivity of acupuncture points to minute changes in the environment.

The author was able to measure with her patented supersensitive energy meter energy difference between inhaling and exhaling - the energy is slightly higher at inhalation and slightly lower at exhalation. The difference is not big, but measurable. If such difference is measurable, when acupuncture is done it should matter at inhaling or exhaling the needles are inserted or taken out.

**Acupuncture Treatments and Atmospheric Conditions**

When the heaven and earth are warm and gentle, then the main arteries are peaceful and quiet. When heaven is cold, and the earth is icy, then the main arteries are stiffened and frozen. When heaven is very hot, and the earth is heated the arteries boil over. When suddenly a fierce and scorching wind arises, the arteries will show high waves and flow rapidly and rise up [1]. The heavenly climate circulates within the blood; the climate of the earth circulates within the throat; thunder penetrates the heart; the air of ravine penetrates the stomach; the rain penetrates the kidneys [1]. If climate and atmospheric conditions influence the blood circulation and acupuncture influences the blood circulation (Nakayama) [1], then the climatic and atmospheric conditions must be considered when acupuncture is done.

For that reason, when possible, acupuncture treatments shouldn’t be done during the winter when it is very cold, and in days when it is extremely hot. They should also be avoided when a new weather front is coming, and the atmospheric pressure and temperature change very rapidly because studies show that the blood coagulation and urine sedation change 2 to 3 times [5]. When possible, surgeries should also be avoided during such atmospheric conditions. Additional information can be found in the author’s book: Maria Kuman, Ancient Wisdom and Modern Science about Health and Happiness [10]. Surgeries should also avoid the acupuncture points, which are places of dense neuronal sets and blood vessels. Russian studies, reported at the 8th World Congress on Acupuncture, showed that surgeries avoiding the acupuncture points heal faster and are less painful.

**Conclusion**

Ancient texts and contemporary studies say the same - acupuncture induces hormonal changes. If so, the acupuncture treatments need to be synchronized with the hormonal cycles in the body: daily, monthly, and seasonal, and the rhythm of breathing. The atmospheric conditions should also be considered.

**References**

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